L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
AN 1995:997032 CAPLUS
DN 124:91738
TI Production of spherical activated carbon
PA Braeutigam, Joerg, Germany
SO Ger., 7 pp.
CODEN: GWXXAW
DT Patent
LA German
IC ICM C01B031-14
ICS C02F001-28; B01J020-20; B01D053-02
CC 49-1 (Industrial Inorganic Chemicals)
Section cross-reference(s): 60, 61
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4416576	C1	19951109	DE 1994-4416576	19940511 <--
	DE 19538373	A1	19970417	DE 1995-19538373	19951014
PRAI	DE 1994-4416576		19940511		

AB Manuf. of spherical activated C includes mixing of (1) ground raw materials (e.g., corn cobs, nut shells, fruit pits, esp. olive pits) with a particle size of 10-500 .mu.m 10-95 wt.% (charge wt. basis) impregnated with a 2-4 wt.% aq. Li salt soln. to absorb 60-90 wt.% salt (raw material basis), (2) coal powder 10-80 .mu.m diam. 10-95 wt.% (charge wt. basis), optionally (3) cellulose fibers (from sawdust) with a particle size of 20-300 .mu.m 3-15 wt.% (charge wt. basis) impregnated with the aq. Li salt soln. to absorb 300-450 wt.% salt (raw material basis), and (4) phenolic resin binder 5-30 wt.% (charge wt. basis). The resulting mixt. is shaped to form spheres 0.3-10 mm diam. which are dried, hardened, carbonized at 300-650.degree., and activated with CO2 and/or steam at 500-950.degree.. The resulting activated C has high abrasion resistance and compressive strength and is esp. suitable for removal of pollutants from liqs. (e.g., drinking water, wastewaters) and gases.

ST adsorbent activated spherical carbon manuf
IT Corncob
Sawdust
(in manuf. of spherical activated carbon adsorbent)
IT Phenolic resins, uses
RL: NUU (Other use, unclassified); USES (Uses)
(in manuf. of spherical activated carbon adsorbent)
IT Adsorbents
(manuf. of spherical activated carbon)
IT Fruit
Olive
(pits; in manuf. of spherical activated carbon adsorbent)
IT Nut (seed)
(shells; in manuf. of spherical activated carbon adsorbent)
IT Wastewater treatment
Water purification
(adsorption, spherical activated carbon adsorbent for)
IT Coal
RL: NUU (Other use, unclassified); USES (Uses)
(powd., in manuf. of spherical activated carbon adsorbent)
IT 7440-44-0, Carbon, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(activated; manuf. of spherical)
IT 7447-41-8, Lithium chloride, uses 7646-85-7, Zinc chloride, uses
9004-34-6, Cellulose, uses 10043-52-4, Calcium chloride, uses
12125-02-9, Ammonium chloride, uses
RL: NUU (Other use, unclassified); USES (Uses)
(in manuf. of spherical activated carbon adsorbent)

PUB-NO: DE004416576C1

DOCUMENT-IDENTIFIER: DE 4416576 C1

TITLE: TITLE DATA NOT AVAILABLE

PUBN-DATE: November 9, 1995

ASSIGNEE-INFORMATION:

NAME	COUNTRY
BRAEUTIGAM JOERG	DE

APPL-NO: DE04416576

APPL-DATE: May 11, 1994

PRIORITY-DATA: DE04416576A (May 11, 1994)

INT-CL (IPC): C01B031/14, C02F001/28 , B01J020/20 , B01D053/02

EUR-CL (EPC): B01J020/20 ; C01B031/14, C02F001/28

ABSTRACT:

Prodn. of spherical active carbon (I) comprises: (a) impregnating 10-95 wt.% ground corn cobs, almond stones, nut shells and/or fruit stones, esp. olive stones, milled to a particle size of 10-500 microns, with 60-90 wt.% of a 2-4 wt.% aq. soln. of a soluble Li salt (w.r.t. wt. of raw materials mixt. not allowing for the impregnation); (b) impregnating 10-95 wt.% hard coal, esp. bituminous coal with a particle size of 10-80 microns; and opt. (c) 3-15 wt.% fibrous cellulose obtd. from wood flour, with a cellulose content of at least 99 wt.% and a particle size of 20-300 microns, with 300-450 wt.% of the Li salt soln. as in (a); (d) mixing these with 5-30 wt.% self-curing synthetic resin

binder(s) (w.r.t. raw material mixt.), forming the mixt. of (a-d) into spheres
with a dia. of 0.3-10 mm, drying and hardening, carbonising at 300-650<0> C
under low-oxygen conditions, and activating at 500-950<0> C.

DERWENT-ACC-NO: 1995-374748

DERWENT-WEEK: 199549

TITLE: Spherical active carbon prodn. - by impregnating mixt. of ground olive pips and coal with aq. lithium salt, mixing with phenolic resin, forming into spheres and carbonising

PATENT-ASSIGNEE: BRAEUTIGAM J[BRAEI]

PRIORITY-DATA: 1994DE-4416576 (May 11, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 4416576 C1	November 9, 1995	N/A	007	C01B 031/14

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
DE 4416576C1	N/A	1994DE-4416576	May 11, 1994

INT-CL (IPC): B01D053/02, B01J020/20 , C01B031/14 , C02F001/28

ABSTRACTED-PUB-NO: DE 4416576C

BASIC-ABSTRACT:

Prodn. of spherical active carbon (I) comprises: (a) impregnating 10-95 wt.% ground corn cobs, almond stones, nut shells and/or fruit stones, esp. olive stones, milled to a particle size of 10-500 microns, with 60-90 wt.% of a 2-4 wt.% aq. soln. of a soluble Li salt (w.r.t. wt. of raw

materials mixt. not
allowing for the impregnation); (b) impregnating 10-95 wt.% hard coal, esp.
bituminous coal with a particle size of 10-80 microns; and opt. (c) 3-15 wt.%
fibrous cellulose obtd. from wood flour, with a cellulose content of at least
99 wt.% and a particle size of 20-300 microns, with 300-450 wt.% of the Li salt
soln. as in (a); (d) mixing these with 5-30 wt.%
self-curing synthetic resin
binder(s) (w.r.t. raw material mixt.), forming the mixt. of (a-d) into spheres
with a dia. of 0.3-10 mm, drying and hardening, carbonising at 300-6500 C under
low-oxygen conditions, and activating at 500-9500 C.

USE - Used for removing unwanted dissolved substances from aq. and non-aq.
liqs. and from gases (claimed).

ADVANTAGE - Provides a simplified, more economical process (i.e. with fewer
stages) for the prodn. of active carbon contg. no potential carcinogens
(contrast tar-based binders), with a uniform particle size, high compressive
strength and abrasion resistance, good, easily controlled adsorption
properties, and advantageous packing properties in solid beds etc.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: SPHERE ACTIVE CARBON PRODUCE IMPREGNATE MIXTURE GROUND OLIVE PIP
COAL AQUEOUS LITHIUM SALT MIX PHENOLIC RESIN FORMING SPHERE
CARBONISE

DERWENT-CLASS: A97 D15 E36 J01

CPI-CODES: A05-C01B; A10-E05B; A12-W11D; D04-A01F; E31-N03; J01-D01; J01-E03C;

CHEMICAL-CODES:
Chemical Indexing M3 *01*
Fragmentation Code

C106 C810 M411 M720 M903 M904 M910 N104 N514 N515
Q140 Q231 Q508
Specfic Compounds
01669P
Registry Numbers
1669P

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1669P; 1679U

ENHANCED-POLYMER-INDEXING:
Polymer Index [1.1]
017 ; P0226 P0282*R D01 D18 F30 ; M9999 M2108 M2095 ; L9999 L2391
; L9999 L2108 L2095 ; S9999 S1456*R ; M9999 M2073 ; L9999 L2073
Polymer Index [1.2]
017 ; ND03 ; ND06 ; B9999 B5196 B5185 B4740 ; B9999 B5209 B5185
B4740 ; Q9999 Q6973 Q6939 ; Q9999 Q8753 ; B9999 B4126 B4091 B3838
B3747 ; B9999 B5287 B5276 ; B9999 B3383*R B3372
Polymer Index [1.3]
017 ; B9999 B4999 B4988 B4977 B4740 ; N9999 N6780*R N6655
Polymer Index [2.1]
017 ; R01852*R G3634 D01 D03 D11 D10 D23 D22 D31 D42 D50 D86 F24
F29 F26 F34 H0293 P0599 G3623 ; S9999 S1070*R ; S9999 S1456*R ;
M9999 M2108 M2095 ; L9999 L2391 ; L9999 L2108 L2095
Polymer Index [2.2]
017 ; ND03 ; ND06 ; B9999 B5196 B5185 B4740 ; B9999 B5209 B5185
B4740 ; Q9999 Q6973 Q6939 ; Q9999 Q8753 ; B9999 B4126 B4091 B3838
B3747 ; B9999 B5287 B5276 ; B9999 B3383*R B3372

SECONDARY-ACC-NO:
CPI Secondary Accession Numbers: C1995-162363

DERWENT-ACC-NO: 1993-135766

DERWENT-WEEK: 199317

TITLE: High quality active charcoal moulding prodn. from lignocellulosic materials - by mixing finely ground wood charcoal with melasse, shaping e.g. by compressing and treating with steam to effect carbonisation and activation

INVENTOR: GEIGER, O; GIEBELHAUSEN, J ; SPIEKER, H

PATENT-ASSIGNEE: CARBO CONSULT GES UMWELT & INDUSTRIETECH[CARBN] , MID-WEST AKTIVKOHLE GMBH[MIDWN]

PRIORITY-DATA: 1992DE-4234786 (October 15, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 4234786 A1	April 22, 1993	N/A	004	C01B 031/14
DE 4234786 C2	October 14, 1993	N/A	004	C01B 031/14

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
DE 4234786A1	N/A	1992DE-4234786	October 15, 1992
DE 4234786C2	N/A	1992DE-4234786	October 15, 1992

INT-CL (IPC): C01B031/10, C01B031/14

ABSTRACTED-PUB-NO: DE 4234786A

BASIC-ABSTRACT:

Producing a high quality active charcoal moulding from raw materials contg. lignocellulose, pref. wood charcoal from old wood of various compsns., is effected by the rotary pipe oven principle by gas/steam activation. Finely ground wood charcoal (100% smaller than 0.04 mm) is intensively mixed with 25-60wt% melasse as binder, compressed or extruded into mouldings, hardened in a rotary pipe oven operating countercurrently, carbonised by addition of 50-500kg/hr steam and activated by addition of 600-3500g/hr steam in a rotary pipe oven operating direct currently.

Pref. amt. glucose in the melasse used is 40-55wt%. Hardening is effected in the first third of the rotary pipe oven after prod. introduction at 100-450degC. The steam used for carbonisation and forming a porous structure is introduced in equal amts. through nozzles in regions of 35-40%, 60-65% and 85-90%, of the oven length, calculated from prod. inlet. The steam used for activating is introduced in equal amts. through nozzles in regions of 5-10%, 20-25%, 35-40%, 50-60% and 70-80%, of the oven length, calculated from prod. inlet.

USE/ADVANTAGE - The obtd. prod. has high hardness and a broad pore spectrum and because of its good desorption capability has various uses, partic. in the recovery of solvents, and purification of water, gases and air

ABSTRACTED-PUB-NO: DE 4234786C

EQUIVALENT-ABSTRACTS:

Prodn. of active carbon from charcoal obtd. by carbonising old wood, comprises activation with steam in a rotating oven which is run on

the equal flow
principle. In the process, ground charcoal with grain sizes of less than 0.04
mm is intensively mixed with 25-60 wt.% molasses as binder; shaped by pressing
or extruding; hardened in the rotating drum oven; carbonised by adding 50-500
kg/h; and activated in the oven with the addn. of 600-3500 kg/h steam.

Pref. temp. is 100-450 deg.C.

USE/ADVANTAGE - The appts. needed for the process is cheap. The process is
environmentally friendly. The prod. is used for gas, air and water
purification and in solvent recycling.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: HIGH QUALITY ACTIVE CHARCOAL MOULD PRODUCE LIGNOCELLULOSIC
MATERIAL MIX FINE GROUND WOOD CHARCOAL SHAPE COMPRESS TREAT STEAM
EFFECT CARBONISE ACTIVATE

DERWENT-CLASS: D15 E36 J01

CPI-CODES: D04-A01F; E10-A07; J01-D01; J01-E03C;

CHEMICAL-CODES:
Chemical Indexing M3 *01*
Fragmentation Code
H4 H405 H484 H8 J4 J471 K0 L8 L814 L821
L831 M280 M315 M321 M332 M344 M349 M381 M391 M416
M620 M781 M903 M904 M910 Q231 Q431 Q436 Q437 Q439
Specfic Compounds
00038U

Chemical Indexing M3 *02*
Fragmentation Code
C106 C810 M411 M720 M903 M904 M910 N513 N514 N515
Q231 Q431 Q436 Q437 Q439 Q460 Q508
Specfic Compounds
01669P

UNLINKED-DERWENT-REGISTRY-NUMBERS: 0038U; 1669P

PUB-NO: DE004234786A1

DOCUMENT-IDENTIFIER: DE 4234786 A1

TITLE: High quality active charcoal moulding prodn. from lignocellulosic materials - by mixing finely ground wood charcoal with melasse, shaping e.g. by compressing and treating with steam to effect carbonis

PUBN-DATE: April 22, 1993

INVENTOR-INFORMATION:

NAME	COUNTRY
GIEBELHAUSEN, JANN-MICHAEL	DE
SPIEKER, HUBERTUS	DE
GEIGER, OTTMAR W	DE

ASSIGNEE-INFORMATION:

NAME	COUNTRY
CARBO CONSULT GES FUER UMWELT	DE
MID WEST AKTIVKOHLE GMBH	DE

APPL-NO: DE04234786

APPL-DATE: October 15, 1992

PRIORITY-DATA: DE04234786A (October 15, 1992)

INT-CL (IPC): C01B031/10, C01B031/14

EUR-CL (EPC): C01B031/10 ; C01B031/14

US-CL-CURRENT: 502/437

ABSTRACT:

Producing a high quality active charcoal moulding from raw materials contg. lignocellulose, pref. wood charcoal from old wood of various compsns., is effected by the rotary pipe oven principle by gas/steam activation. Finely ground wood charcoal (100% smaller than 0.04 mm) is intensively mixed with 25-60wt% melasse as binder, compressed or extruded into mouldings, hardened in a rotary pipe oven operating countercurrently, carbonised by addition of 50-500kg/hr steam and activated by addition of 600-3500g/hr steam in a rotary pipe oven operating direct currently. Pref. amt. glucose in the melasse used is 40-55wt%. Hardening is effected in the first third of the rotary pipe oven after prod. introduction at 100-450degC. The steam used for carbonisation and forming a porous structure is introduced in equal amts. through nozzles in regions of 35-40%, 60-65% and 85-90%, of the oven length, calculated from prod. inlet. The steam used for activating is introduced in equal amts. through nozzles in regions of 5-10%, 20-25%, 35-40%, 50-60% and 70-80%, of the oven length, calculated from prod. inlet. USE/ADVANTAGE - The obtd. prod. has high hardness and a broad pore spectrum and because of its good desorption capability has various uses, partic. in the recovery of solvents, and purification of water, gases and air